

**Supplementary table 1a. Calculation of rescaled weights for facilities performing caesareans – sensitivity analysis (SPA 2014-15)**

	Hospitals (all sectors)	Health centres (all sectors)	Total
Total number of facilities in Tanzania [SPA sampling frame]	265	761	
Percentage performing caesareans [estimation from SPA]	89.31%	11.45%	
Estimated number of facilities performing caesareans in Tanzania [total number of facilities multiplied by percentage performing caesareans]	237	87	324
Number of sampled facilities [SPA]	254	379	
Number of sampled facilities performing caesareans [SPA]	227	44	

Rescaled weights for each facility level (as a proportion of all facilities performing caesareans) =

(estimated facilities in level performing caesareans / total estimated facilities performing caesareans) x  
(sampled facilities in level / sampled facilities in level performing caesareans)

**Rescaled hospital weight =  $(237 / 324) \times (254 / 227) = 0.8185$**

**Rescaled health centre weight =  $(87 / 324) \times (379 / 44) = 2.3129$**

**Supplementary table 1b. Sensitivity analysis using rescaled weights: percentage of facilities with staffing, infrastructure and equipment indicators, among facilities reporting to provide caesareans in Tanzania (SPA 2014-15)**

	All hospitals	Public hospital	FBO hospital	Private hospital	All health centres	All facilities	All caesareans
Number of facilities in analysis	227	112	84	31	44	271	269
<b>Cadres employed (one or more)</b>							
Medical doctor	89 (89-89)	94 (93-94)	81 (80-82)	94 (93-94)	45 (35-56)	74 (70-77)	90 (89-91)
Assistant medical officer (AMO)	91 (90-91)	98 (98-98)	93 (92-93)	58 (57-60)	80 (70-87)	87 (83-90)	94 (93-95)
Medical doctor or AMO	99 (99-99)	99 (99-99)	99 (99-99)	100	98 (91-99)	99 (97-99)	99 (99-99)
Anaesthesia provider	85 (85-85)	79 (78-79)	92 (91-92)	90 (89-91)	84 (75-90)	85 (82-87)	87 (87-88)
<b>Providers available 24 hours per day</b>							
Caesarean provider	94 (94-94)	95 (94-95)	96 (96-97)	84 (83-85)	57 (46-67)	81 (77-84)	95 (94-96)
Anaesthesia provider	86 (86-86)	88 (87-88)	88 (87-89)	74 (73-76)	45 (35-56)	72 (68-75)	92 (90-93)
Both caesarean and anaesthesia providers	85 (85-85)	86 (85-86)	88 (87-89)	74 (73-76)	45 (35-56)	71 (67-75)	91 (90-92)
<b>Basic infrastructure</b>							
Running water from piped source (delivery ward)	71 (70-71)	78 (77-78)	65 (64-66)	58 (57-60)	53 (41-64)	65 (61-68)	63 (62-64)
Consistent electricity	97 (97-98)	97 (97-98)	98 (97-98)	97 (96-97)	98 (91-99)	97 (96-98)	99 (98-99)
<b>Surgical infrastructure</b>							
Ambulance stationed at facility or access to ambulance stationed elsewhere	96 (95-96)	100	92 (91-92)	90 (89-91)	86 (77-92)	92 (89-95)	97 (97-98)
Blood transfusion services available	96 (95-96)	98 (98-98)	95 (95-96)	87 (86-88)	70 (60-79)	87 (83-90)	98 (97-99)
Dedicated caesarean theatre	43 (42-43)	46 (45-46)	46 (45-47)	23 (21-24)	48 (37-58)	44 (41-48)	57 (56-58)
<b>Anaesthesia equipment</b>							
All general anaesthesia equipment available	49 (49-50)	34 (33-35)	65 (65-66)	61 (60-63)	30 (21-40)	42 (39-46)	45 (44-46)
<b>Readiness criteria</b>							
[1] Consistent electricity	97 (97-98)	97 (97-98)	98 (97-98)	97 (96-97)	98 (91-99)	97 (96-98)	99 (98-99)
[2]: [1] plus 24-hour anaesthesia and caesarean providers	82 (82-83)	83 (82-84)	86 (85-86)	71 (70-72)	43 (33-54)	69 (65-72)	89 (88-91)
[3]: [2] plus all general anaesthesia equipment	44 (43-44)	30 (30-31)	62 (61-63)	42 (40-43)	11 (6-20)	32 (30-35)	43 (41-44)

**Supplementary table 2. Availability of general anaesthesia equipment items among facilities reporting to provide caesareans**

	Anaesthesia giving set/anaesthesia machine	Endotracheal tube cuffed sizes 5.5-9.0	Intubating stylet	Magills forceps (adult)	Oropharyngeal airway (adult)	Tubings and connectors for endotracheal tube	Oxygen concentrator
<b>Hospitals (all sectors)</b>	<b>76</b>	<b>80</b>	<b>71</b>	<b>74</b>	<b>88</b>	<b>85</b>	<b>91</b>
Public hospital	67	73	61	63	83	80	92
FBO hospital	80	85	82	86	93	88	95
Private hospital	94	93	81	81	93	93	77
<b>Health centres (all sectors)</b>	<b>72</b>	<b>63</b>	<b>69</b>	<b>61</b>	<b>90</b>	<b>80</b>	<b>82</b>
<b>All facilities</b>	<b>75</b>	<b>75</b>	<b>71</b>	<b>70</b>	<b>89</b>	<b>84</b>	<b>88</b>
<b>All caesareans</b>	<b>79</b>	<b>79</b>	<b>67</b>	<b>70</b>	<b>86</b>	<b>85</b>	<b>87</b>

**Supplementary table 3. Availability of three readiness criteria by geographic zone**

Geographic zone	[1] Both running water and consistent electricity (% facilities)	[2] [1] AND 24-hour caesarean and anaesthesia providers (% facilities)	[3] [2] AND all general anaesthesia equipment (% facilities)	Percentage of all caesareans performed in facilities meeting three readiness criteria
Lake	92	67	34	59
Northern	100	65	32	54
Western	100	82	19	17
Central	100	77	52	54
South West Highlands	100	76	40	49
Southern Highlands	97	80	38	37
Eastern	98	72	34	32
Southern	100	62	14	12
Zanzibar	100	56	33	46